Integrated Math 3   Name: _____
Unit 4: Trig. Representations & Modeling
4.1 Worksheet   Date:_____   Period:_____
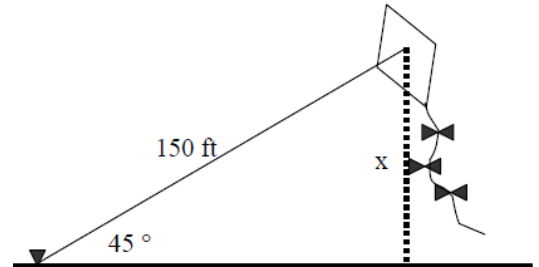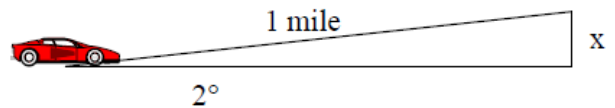
Applications of Right Triangle Trigonometry

1. A kite with a string 150 feet long makes an angle of 45° with the ground. Assuming the string is straight, how high is the kite, to the nearest foot?

150 ft

x

45 °

2. A car is traveling up a slight grade with an angle of elevation of 2°. After traveling one mile, what is the vertical change?

1 mile

x

2°

3. A 300m cable is attached to the top of an antenna. The angle of elevation to the top of the antenna is 15°. How high is the antenna to the nearest meter?

300 m

x

15°
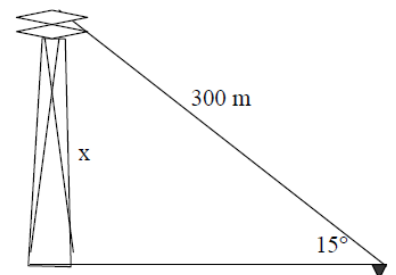
4. The angle of elevation from a boat to the top of a 90-foot hotel is 10°. How far is the boat from the base of the hotel to the nearest foot?

90 ft

10°

x
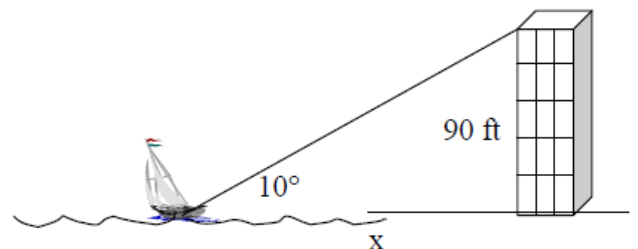
5. A person is standing 30 meters from a traffic light. If the angle of elevation from the person's feet to the top of the traffic light is 25°, find the height of the traffic light to the nearest meter.

X

25°

30 m
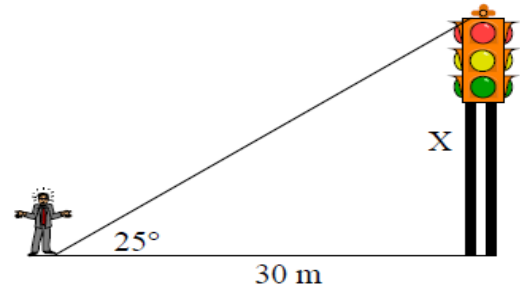
6. If a 50 foot cable supporting a circus tent is staked into the ground an an angle of 37°, how far from the tent must the stake be placed (to the nearest foot)?

50 ft

37°

X
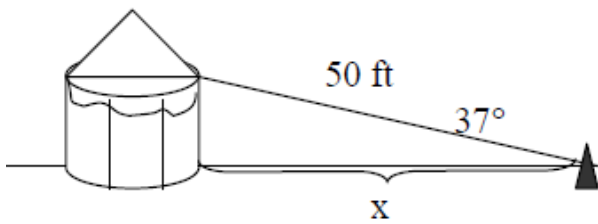
7. A 12-meter ladder is inclined against a brick wall at an angle of 15°. If the top of the ladder reaches the top of the wall, how tall is the wall? Round to the nearest meter.

12 m

X

15°